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BOTTLE CARRIERS

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Granted to Waldorf Paper Products Company, St. Paul, Minnesota, U. S. A.

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This invention relates to an improvement in Bottle Carriers and deals particularly with a carrier which may be wrapped around a series of bottles to hold them in a predetermined relative position.

Cans are often sold in carrier cartons which most commonly contain six cans of the product. In these carriers, the cans are often times grouped together in actual physical contact. The glass industry has recently started featuring bottles which are but little larger than cans designed to hold the same volume of the product, which are relatively short and which have an unusually short neck. With such bottles, it is usually necessary to provide some partition structure at least sufficient to prevent actual contact between the bottles. It is an object of the present invention to provide a carrier which is capable of accomplishing these results.

It is an object of the present invention to provide a carrier including, in series, a side wall panel, a bottom panel, a second side wall panel, a series of top panels, and a locking flap designed to overlap the first side wall panel and which is provided with suitable locking tongues capable of locking the walls in tubular form. The top structure actually includes three panels, one of which comprises a central panel and which extends between the bottle necks, and the other two of which comprise inclined panels designed to incline downwardly over the curved portions of the bottle bodies beneath the necks and to connect the central top portion with the side walls. Apertures are provided at the juncture between the center top panel and the inclined top panel portions through which the short necks of the bottles



may extend. The paperboard cut away to form certain of these apertures remains hinged to the center top panel approximately along the center line thereof. These portions of the paperboard are folded down between opposed bottles in the carrier to form a partial partition therebetween.

In a wrap-around carrier of the type described, the bottles are usually arranged in two parallel rows, there usually being three bottles in each row. When the elongated strip of paperboard forming the carrier is wrapped about the group of bottles, the apertures in the carrier body must be sufficiently long in a direction longitudinally of the strip to permit the apertures to fit over the bottle necks and caps during the wrapping operation. When the carrier has been wrapped about the bottles and locked in tubular form, the portions of the apertures which fit about the bodies of the bottles tend to hold the bottles from movement longitudinally of the rollers as the ends of the carrier are drawn together, there is a tendency for the upper ends of the bottles of one row to be drawn toward the corresponding bottles of the other row. An object of the present invention lies in the provision of partition elements which extend between the upper portions of the bottles of the two rows to prevent direct contact therebetween.

These and other objects and novel features of the present invention will be more clearly and fully set forth in the following specification and claims:

In the drawings forming a part of the specification:

Figure 1 is a perspective view of a bottle carrier showing the general construction thereof.

Figure 2 is a view similar to Figure 1 but

showing the carrier empty to show portions of the interior thereof.

Figure 3 is a transverse sectional view through the carrier, the position of the section being indicated by the line 3-3 of Figure 1.

Figure 4 is a longitudinal sectional view through the carrier, the position of the section being indicated by the line 4-4 of Figure 1.

Figure 5 is a diagrammatic view of the blank from which the carrier is formed.

Figure 6 is a perspective view of a modified form of filled carrier.

Figure 7 is a transverse sectional view through the carrier illustrated in Figure 6.

Figure 8 is a longitudinal sectional view through the carrier of Figure 6, the position of the section being indicated by the line 8-8 of Figure 6.

Figure 9 is a diagrammatic view of the blank from which the carrier is formed.

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The blank is formed as is best illustrated in Figure 5 of the drawings. The carrier A is formed of an elongated strip of paperboard which is cut and scored to provide a first side wall 10, a bottom panel 11, and a second side wall 12, the wall panels being connected along parallel fold lines 13 and 14. A top panel portion 15 is foldably connected to the side wall 12 along the fold line 16, and a center top panel 17 is foldably connected to the top panel portion 15 along a fold line 19. A second top pan l portion 20 is foldably connected to the center top

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panel 17 along a fold line 21. A locking flap 22 is foldably connected to the top panel portion 20 along the fold line 23. All of the fold lines which have been described are parallel and extend transversely of the length of the blank.

A pair of locking tongues 24 are provided in spaced relation upon the locking flap 22, and the side wall 10 is provided with a pair of correspondingly spaced apertures 25 through which the locking tongues 24 may be forced in order to hold the carrier in tubular form.

10 Some means is provided for holding the various bottles B from sliding from the ends of the carton. In the particular arrangement illustrated, flanges 26 are hingedly connected to the longitudinal edges of the blank along fold lines 27, the flanges 26 being connected to side wall flanges 29 on the side wall 10 along continuations of the fold line 27 by generally V-shaped gusset flaps 30 which are arranged with the apex of the V at the intersection of the fold lines 27 and the fold line 13 connecting the side wall 10 to the bottom panel 11. In the same manner, the
20 flanges 26 are connected to flanges 31 hingedly connected to the side wall 12 along a continuation of the fold lines 27 by V-shaped gusset flaps 32. With this arrangement, the flanges 26 may be held in an upright position when the flanges 29 and 31 are folded between the bottles and the side walls 10 and 12 to which these flanges are hinged. This arrangement is shown for the purpose of illustration only, and is similar to that disclosed in patent Re-24,925 issued January 17, 1961, to John V. Fisher.

30 For the purpose of convenience, a tear strip 33 may extend substantially across one of the side wall panels,

such as the panel 12, the tear strip being defined by spaced parallel perforated lines 34 having at one end a head 35 which is cut from the body and which may be grasped to remove the tear strip and to automatically open the carrier.

A series of spaced tabs 36 are provided in the bottom panel 11 and are defined by U-shaped cut lines 37 which terminate along fold lines 39 which intersect the center line of the bottom panel between the fold lines 13 and 14, and are arranged at a slight angle to this center line. Portions of the tabs, when folded upwardly at right angles to the bottom panel 11, extend on each side of the center line to provide a more effective partition between the lower ends of the bottles of the two rows when the carrier is filled. Two pairs of tabs 40 are also cut from the bottom panel 11 and are also defined by generally U-shaped cut lines 41, the tabs 40 being hingedly connected to the bottom panel along fold lines 42 which are parallel to the fold lines 27 defining the longitudinal side edges of the main portion of the blank. The fold lines 42 are spaced from the fold lines 27 a distance substantially equal to the diameter of the bottles contained, and the two pairs of tabs are also connected to the bottom panel 11 along their fold lines 42 which are spaced apart a distance substantially equal to the diameter of the bottles B, the tabs 40 thus being foldable upwardly to form a partition between the lower ends of the bottles of each row.

Spaced apertures 43 intersect the fold line connecting the center top panel 17 to the side top portion 20, the apertures 43 being located to accommodate a portion of the cap and neck of the bottles B of one row. A series of

apertures also intersect the fold line 19 connecting the center top panel to the side top panel portion 50. These last named apertures are formed by arcuate cut lines 44 which extend into the panel portion 15 and intersect the fold line 19. The ends of the arcuate cut lines 44 are connected to a pair of parallel cut lines 45 which extend parallel to the longitudinal edges of the blank to the center line of the center top panel 17. Fold lines 46 connect the ends of the cut lines 45, and extend along this transverse center line of the panel 17.

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A pair of spaced tabs 47 are provided in the panel 17 intermediate the fold lines 19 and 21 defining the edges of the panel 17, these tabs 47 being also located on opposite sides of the longitudinal center line of the blank between the center lines of the opposed bottles of the two rows. The caps 27 are defined by U-shaped cut lines 49 and are foldably connected to the panel 17 along parallel fold lines 50. The tabs 47 are merely designed to provide potential finger holes, and when these tabs are bent downwardly, apertures are provided through which a finger and thumb may be inserted for carrying the carrier.

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The set up form of the carrier A is believed clearly illustrated in the drawings. The tabs 36 extend upwardly from the bottom panel 11 and extend between a pair of opposed bottles in the two rows. The tabs 40 are also bent upwardly in right angles to the bottom panel, and extend between the center bottle and the two end bottles of each row. The flanges 26 are folded upwardly into substantially right angular relation to the bottom panel 11, and are held in this position by the side wall flanges 29

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which extend between the end bottles of the rows and the side walls 10 and 12 to which they are hinged. Thus the lower ends of the bottles are held from direct contact and are held from sliding from the ends of the carrier.

10 The tabs 51 which are formed by the connected cut lines 44 and 45 are folded between the opposed bottles of each pair as is indicated in Figure 4. The outer walls of the apertures 43 and the arcuate cut lines 44 are drawn snugly over the rounded upper portions of the bottom bodies and hold the upper portions of the bottles from swinging longitudinally. Thus all of the bottles are held out of direct contact when the carrier is closed.

20 In the modified form of carrier C illustrated in Figures 6-9 of the drawings, the first side wall 10, the second side wall 11, the third side wall 12 and the locking flap 22 are identical to those described in conjunction with the carrier A, and have been given the same identifying numerals. The side wall 10 is provided with the locking slots and apertures 25 to accommodate the locking tongues 24 of the closing flap 22. The bottom panel 11 is provided with the tabs 36 and 40, and a flange structure similar to that previously described is provided on the ends of the bottom panel and side walls. Only the top panel structure has been changed, so the other elements have been given the same identifying numerals.

30 The top of the carrier C includes a top panel portion 55 connected to the side wall 12 by a fold line 16, a center top panel 56 connected to the panel portion 55 by a fold line 57 and a top panel portion 59 secured to the top center portion 56 by a fold line 60. The panel portion

59 is connected to the locking flap 22 by the fold line 23. Apertures 61 are provided in spaced relation which are located similarly to the apertures 43 to accommodate the bottle necks. The apertures 61 intersect the fold line 60 and extend partially in the center top panel 56 and the side panel portion 59. Each aperture 61 comprises a generally circular area, a generally wedge-shaped portion of which is cut away inwardly of the arcuate cut line 62. A pair of opposed generally triangular lips 63 are connected to the carrier top along arcuate fold lines 64 which are generally at right angles to the fold line 60 so that these lips may engage the bottle necks on opposite sides thereof in a direction longitudinally of the rows. A third lip 65 extends into each aperture, being foldably connected thereto along an arcuate fold line 66 which permits the tab 65 to fold along the line which is generally parallel to the fold line 60, the lips 65 being engageable with the bottom necks on the outer sides of the rows. In other words, the lips 65 tend to hold the bottle necks toward the longitudinal center of the carrier.

In the arrangement illustrated, the arcuate cut line 62, together with the fold lines 64 and 66 form a circular aperture into which the lips 63 and 65 extend. As these lips are folded along arcuate fold lines, they tend to lie on a conical surface when folded upwardly.

The apertures 67 designed to accommodate the necks of the bottles of the other row are somewhat similarly formed. However, portions of the top center panel are cut to provide foldable dividers designed to extend downwardly between the opposed bottles of each pair.

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These dividers include a strap portion 69 and a generally shaped end portion 71. The strap portion 69 is defined by a pair of parallel cut lines 71 which are at right angles to the fold lines 57, and 60 and which terminate at the center line between these fold lines. A fold line 72 extends along the center line of the top panel 56 between the ends of the parallel cuts 71. Concentric arcuate cuts 73 diverge from the opposite ends of the cut lines 71, the arcuate cut lines 73 extending along the generally circular area defining the apertures 67. Converging cut lines 74 extend inwardly in a generally radial direction from the center of arcuation and the ends of the converging cut lines 74 are connected by a cut line 75 parallel to the fold line 72. This arrangement of cut lines thus provides the straps 69 and the wider wedge shaped ends 70.

Generally triangular lips or tabs 76 are provided extending into the aperture 67 from opposite sides thereof, the lips 76 being connected to the top panels 55 and 56 along arcuate fold lines 77 which form a part of the circular area defining the aperture 67. The arrangement is such that the lips 76 may engage opposite sides of the bottle necks in a direction longitudinally of the rows of bottles. The hook lines of fold 77 are generally at right angles to the line of fold 57.

Lips 79 are hingedly connected to the panel 55 along arcuate fold lines 80 which also lie along the edge of the circular area defining the apertures and areas. The lips 79 fold along a line which is generally parallel to the fold line 56 and are designed to engage the surfaces of the bottle necks which are on the outer side of the rows.

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In this structure as in the carrier A, the necks 81 of the bottles B which extend upwardly from the rounded shoulder portions forming the tops of the bottle body extend through the apertures. However, as is best illustrated in Figure 8 of the drawings, the straps 69 with their enlarged ends 70 extend between the opposed bottles of each pair, and the lips 76 flex upwardly to engage beneath the bottle caps 83. As is best indicated in Figure 7 of the drawings, the lips 65 and 79 engage against the bottle necks 81 beneath the caps 83 to hold the bottles against the center dividers. In other words, in the carrier C, the upper ends of the bottles are somewhat more effectively held from movement in any direction.

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The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

The Claims:

1. A bottle carrier of the wrap around type adapted to wrap around two side by side rows of bottles in opposed relation, the carrier including an elongated strip of foldable sheet material creased to provide, a first side wall, a bottom panel, a second side wall, a top panel structure and a locking flap secured in series,

said top panel structure including a center top panel and a pair of side top portions connected to opposite sides of said center top panel and to said second side wall and said locking flap respectively,

said top panel structure including a series of opposed pairs of apertures at the juncture between said center top panel and said side top portions and spaced apart a distance substantially equal to the diameter of the bottles to be contained and equal in number to the bottles to be contained,

said apertures being of a size to accommodate the necks of the bottles to be contained,

one aperture of each pair being at least partially formed by cut lines defining a tab,

a strap connected to each tab and defined by cut lines terminating in spaced relation substantially at the center of said center top panel between said rows of apertures,

said tab and strap being adapted to fold into substantially parallel relation to said side walls and between the bottles of each pair when said carrier is folded about said rows of bottles.

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2. The structure of claim 1 and in which said top panel structure includes a series of lips hingedly secured thereto along opposite side edges of said apertures longitudinally of said rows and engageable against the necks of bottles inserted through said apertures.

3. The structure of claim 3 and including a third lip hingedly secured to the side top portions along the edges of each said aperture nearest the adjoining side wall.

4. A bottle carrier of the wrap around type adapted to wrap around two side by side rows of bottles in opposed relation, the carrier including an elongated strip of foldable sheet material creased to provide, a first side wall, a bottom panel, a second side wall, a top panel structure and a locking flap secured in series,

said top panel structure including a center top panel and a pair of side top portions connected to opposite sides of said center top panel and to said second side wall and said locking flap respectively,

said top panel structure including a series of opposed pairs of apertures at the juncture between said center top panel and said side top portions and spaced apart a distance substantially equal to the diameter of the bottles to be contained and equal in number of the bottles to be contained,

said apertures being of a size to accommodate the necks of the bottles to be contained,

a substantial portion of said apertures being defined by lines of fold extending along the edges of said apertures nearest the adjoining side wall and along opposite

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sides of said apertures which are in substantially right angles to the line of fold connecting said side to portions to said side walls,

three generally triangular lips extending into said apertures from said three fold lines defining said apertures,

a tab cut from said top panel structure and defining the remainder of said aperture in one aperture of each pair, and

10 a strap connected to said tab and defined by cut lines extending from said aperture to substantially the center line of said center top panel between said side top portions, said strap and tab being adapted to fold downwardly from said center top panel and between the bottles of each.

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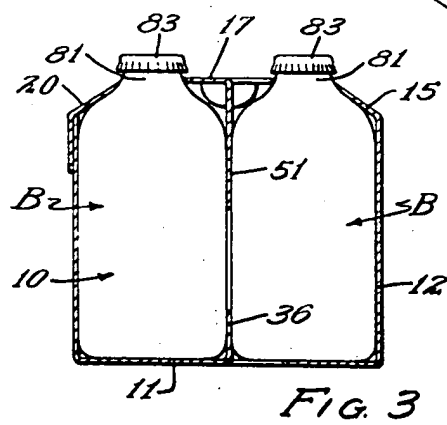
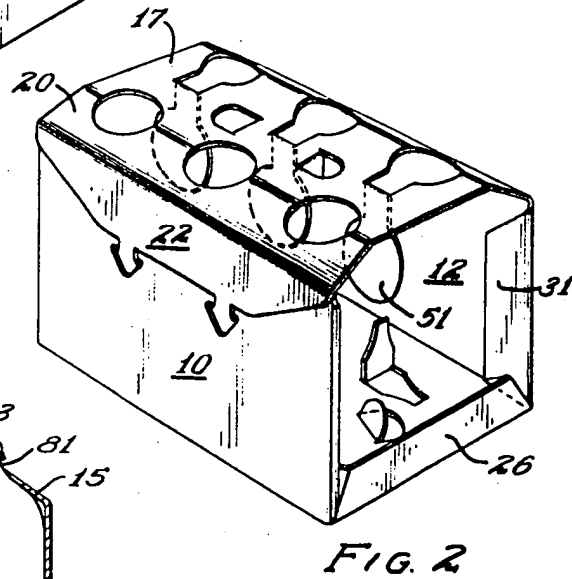
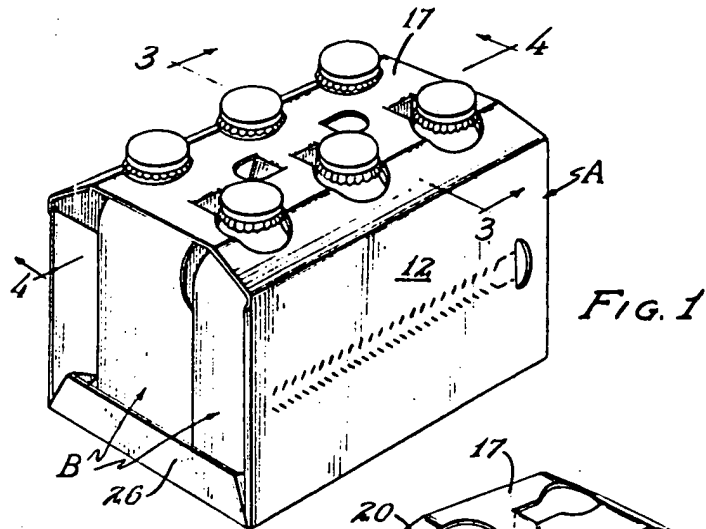
Patent Agents for the applicant

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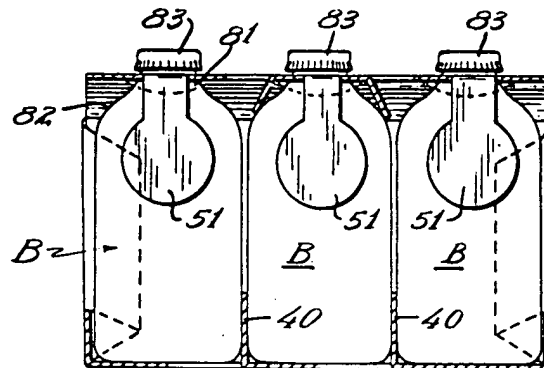


FIG. 4

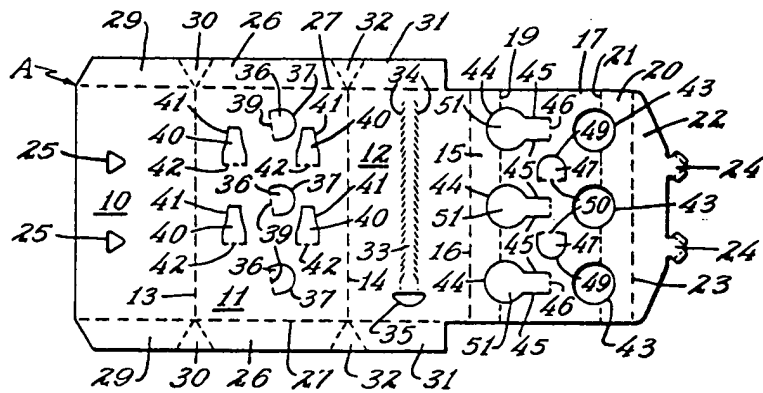


FIG. 5

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